



Cover Regulation to TCAR OPS Part-SPO (TCAR OPS SPO)

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Approved By

Air Chief Marshal

Manat Chavanaprayoon

Director General

The Civil Aviation Authority of Thailand

THAILAND CIVIL AVIATION REGULATION (TCAR)

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RECORD OF REVISIONS

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FOREWORD

Having regard to section 15/7 section 15/8 of Air Navigation Act, 14th Amendment B.E.2562, whereas the Civil Aviation Authority of Thailand (CAAT) shall have the duties and responsibilities for regulating and oversight on the Safety, Security and Facilitation of civil aviation in Thailand. In regulating and oversight civil aviation to promote sustainable development on civil aviation industry, The CAAT shall also proceed to comply with the Convention on International Civil Aviation, ICAO Annexes and International Standards.

Having regard to the Air Navigation Act and to the essential requirements for air operations laid down in annex 01 to this regulation, the CAAT issued detailed requirements contained in this “TCAR OPS Air Operations” regulation as well as in TCAR OPS Parts.

By the virtue of section 6/1 section 15/10 paragraph 1 (1) and paragraph 2 of Air Navigation Act, 14th Amendment B.E.2562, which contain provisions relating to the power of The Director General of Civil Aviation of Thailand to lay down necessary measures or actions for the oversight of civil aviation and the safety standard of the Civil Aviation Authority of Thailand, The Director General of Civil Aviation of Thailand, hereby issued the regulation concerning the operations of aircraft as detailed in TCAR OPS Air Operations regulation and TCAR OPS Parts.

By the virtue of Requirement of the Civil Aviation Authority of Thailand No.117 on the Specialised Operations to prescribe the essential requirements for air operations laid down in this regulation, the CAAT issued detail requirements contained in this “TCAR OPS Air Operations regulation” as well as in TCAR OPS Parts including Cover Regulation to TCAR OPS and TCAR OPS Part SPO.

This Cover regulation to TCAR OPS and TCAR OPS Parts contains an Introduction Definition and Principles of TCAR OPS as well as TCAR OPS Parts and the provisions for the transition for Specialised Operations.

SECTION I – INTRODUCTION AND PRINCIPLES

Article 1 – Introduction

In this publication the word ‘must’ or ‘shall’ is used to indicate where the Director General requires the Organisation, owner or operator to respond to and comply with, or adhere closely to, the defined requirement.

If the Organisation’s/owner’s/operator’s response is deemed to be inadequate by the Director General, a specific requirement or restriction may be applied as a condition of the appropriate instrument to be issued under Thailand Civil Aviation Regulations.

Article 2 – Definitions

For the purpose of this Regulation, the following definitions apply:

- (1) ‘Acceptable means of compliance (AMC)’ means non-binding standards adopted by the CAAT to illustrate means to establish compliance with the requirements of the regulations;
- (2) ‘Alternative means of compliance (AMoC)’ means those means that propose an alternative to an existing AMC or those that propose new means to establish compliance with the requirements of the regulations for which no associated AMC have been adopted by the CAAT;
- (3) ‘Aeroplane’ means a power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under certain conditions of flight;
- (4) ‘Aerodrome’ means a defined area, on land or on water, on a fixed, fixed offshore or floating structure, including any buildings, installations and equipment thereon, intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft;
- (5) ‘Aircraft’ means any machine that can derive support in the atmosphere from the reactions of the air other than reactions of the air against the earth’s surface;
- (6) ‘Aircraft operator’ means any legal or natural person operating or proposing to operate one or more aircraft;
- (7) ‘Aircrew’ means flight crew and cabin crew member;
- (8) ‘Approved training organisation (ATO)’ means an organisation which is entitled to provide training to pilots on the basis of an approval issued by the CAAT;
- (9) ‘Basic Instrument Training Device (BITD)’ means a ground-based training device for the training of pilots representing the student pilot’s station of a class of aeroplanes, which may use screen-based instrument panels and spring-loaded flight controls, and providing a training platform for at least the procedural aspects of instrument flight;
- (10) ‘Certificate’ means any certificate, approval, licence, authorisation, or other document issued as the result of a certification attesting compliance with the applicable requirements;
- (11) ‘Certification’ means any form of recognition in accordance with this Regulation, based on an appropriate assessment, that a legal or natural person, product, part, non-installed equipment, equipment to control unmanned aircraft remotely, aerodrome, safety-related aerodrome equipment, ATM/ANS system, ATM/ANS constituent or other organisation, or flight simulation training device complies with the applicable requirements of this Regulation and of the delegated and implementing acts adopted on the basis thereof, through the issuance of a certificate attesting such compliance;
- (12) ‘Certification specifications (CS)’ mean technical standards adopted or accepted by the CAAT indicating means to be used by an organisation for the purpose of certification;

- (13) 'Commercial air transport' means an aircraft operation to transport passengers, cargo or mail for remuneration or other valuable consideration;
- (14) 'Complex Motor-Powered Aircraft' (CMPA) shall mean:
- (i) an aeroplane:
 - with a maximum certificated take-off mass exceeding 5 700 kg, or
 - certificated for a maximum passenger seating configuration of more than nineteen, or
 - certificated for operation with a minimum crew of at least two pilots, or
 - equipped with (a) turbojet engine(s) or more than one turboprop engine, or
 - (ii) a helicopter certificated:
 - for a maximum take-off mass exceeding 3 175 kg, or
 - for a maximum passenger seating configuration of more than nine, or
 - for operation with a minimum crew of at least two pilots, or
 - (iii) a tilt rotor aircraft.
- (15) 'Credit' means the recognition of prior experience or qualifications;
- (16) 'Declaration' means a written statement made in accordance with this TCAR OPS Air Operations regulation, TCAR OPS Parts, TCAR PEL FCL/TO or TCAR PEL Parts under the sole responsibility of a legal or natural person subject to these regulations and which confirms that the applicable requirements of this regulation relating to an operator or organisation are complied with;
- (17) 'Declared organisation' means an organisation which is approved or authorised to perform operations on the basis of a declaration made in accordance with this TCAR OPS Air Operations regulation, TCAR OPS Parts, TCAR PEL FCL/TO or TCAR PEL Parts;
- (18) 'Flight simulation training device' means any type of device in which flight conditions are simulated on the ground, including flight simulators, flight training devices, flight and navigation procedures trainers and basic instrument training devices;
- (19) FSTD categories are:
- (i) in the case of aeroplanes, a full flight simulator (FFS), a flight training device (FTD), a flight and navigation procedures trainer (FNPT) or a basic instrument training device (BITD);
 - (ii) in the case of helicopters, a full flight simulator (FFS), a flight training device (FTD) or a flight and navigation procedures trainer (FNPT).
- (20) 'Helicopter' means a heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes;
- (21) 'Principal place of business' of an organisation means the head office or registered office of the organisation within which the principal financial functions and operational control of the activities referred to in this Regulation are exercised;
- (22) 'TCAR PEL - FCL licence' means a flight crew licence which complies with the requirements of TCAR PEL Part FCL.
- (23) 'TCAR OPS SPO' means this regulation serving as the cover regulation for TCAR OPS Part SPO
- (24) 'TCAR OPS NC' means this regulation serving as the cover regulation for TCAR OPS Part NCC and Part NCO

Article 3 – Objective

- (1) The principal objective of TCARs regulations is to establish and maintain a high uniform level of civil aviation safety in the Kingdom of Thailand.
- (2) TCARs Regulations further aims to:
 - (a) contribute to the Thailand aviation safety policy and to the improvement of the overall performance of the civil aviation sector;
 - (b) facilitate the mutual recognition of goods, persons, services and capital, providing a level playing field for all actors in the ASEAN market, and improve the competitiveness of the Thai aviation industry;
 - (c) facilitate the movement of goods, services and personnel worldwide, by promoting the mutual acceptance of certificates and other relevant documents;
 - (d) promote cost-efficiency, avoiding duplication, and promoting effectiveness in regulatory, certification and oversight processes;
 - (e) promote, worldwide, the views of the Kingdom of Thailand regarding civil aviation standards and civil aviation regulations;
 - (f) support passenger confidence in a safe civil aviation.

Article 4 – Subject matter and Scope

- (1) This TCAR OPS specialised operations regulation as well as TCAR OPS Parts SPO and other Air Operations regulations lays down:
 - (a) the different types of authorisations and approvals required for:
 - a. specialised operations with aeroplanes and helicopters;
 - b. operations in specific conditions that require a specific approval from the CAAT.
 - (b) the requirements for specialised operations;
 - (c) the requirements for operations requiring a specific approval;
 - (d) the requirements for issuing, maintaining, amending, limiting, suspending or revoking the approvals and/or authorisations granted to Air operators performing specialised operations, (including those that are assessed as high risk by the CAAT);
 - (e) the requirements for issuing, maintaining, amending, limiting, suspending or revoking the authorisations granted to Air operators performing operations requiring a specific approval;
- (2) Operations covered by this TCAR OPS Air operations regulation and TCAR OPS Parts are operations of aeroplanes and helicopters, which having their principal place of business in the Kingdom of Thailand.
- (3) This Regulation does not apply to air operations with airships, balloons, powered-lifts, ultralights and gliders.

SECTION II – Commercial specialised operations

Article 5 – Operators performing commercial-specialised operations

- (1) An Operator shall only operate an aircraft for the purpose of commercial specialised operations when it holds an approval issued by the CAAT in accordance with TCAR OPS Part ORO and appropriate for the type of operations to be performed;
- (2) An operator shall only be issued a TCAR OPS approval for commercial specialised operations when it was found compliant with the detailed requirements contained in this regulation and in TCAR OPS Part ORO and Part SPO applicable to the type of operations to be performed.
- (3) An approval for commercial specialised operations may be limited, suspended or revoked when the holder does not comply with the applicable detailed requirements contained in this regulation and in TCAR OPS Part ORO and Part SPO applicable to the type of operations to be performed.
- (4) Flights taking place immediately before, during or immediately after commercial specialised operations and directly connected to those operations shall be operated in accordance with article 6, 7 of TCAR OPS NC regulation and in accordance with article 5 of TCAR OPS Air Operations regulation as applicable. Except for crew members, persons other than those required for the mission shall not be carried on board.
- (5) Flight and duty time limitations for commercial specialised operations with aeroplanes and helicopters shall be implemented in compliance with the detailed requirements contained in Notification of the Civil Aviation Authority of Thailand On Flight Time and Flight Duty Period Limitation.

SECTION III – Operations requiring a specific approval

Article 6 – Operations requiring a specific approval

- (1) An operator shall only operate an aircraft for the type of operations listed in (3) of this article if it holds a specific approval issued by the CAAT in accordance with TCAR OPS Part SPA;
- (2) An operator shall only be issued a TCAR OPS authorisation for operations requiring a specific approval when it was found compliant with the detailed requirements contained in this TCAR OPS Air Operations regulation and in TCAR OPS Part SPA applicable to the type of operations to be performed;
- (3) Specific approval from the CAAT is required for operations with:
 - (a) aeroplanes and helicopters used for:
 - (i) Operations in airspace, routes or approaches that require compliance with the following PBN Specifications:
 - RNP AR APCH; and
 - RNP 0.3 for helicopter operation
 - (ii) operations in airspace requiring compliance with minimum navigation performance specifications (MNPS);
 - (iii) operations in airspace where a reduced vertical separation minimum of 300 m (1000 ft) applies (RVSM);
 - (iv) Low-visibility operations (LVOs) and operations with operational credits;
 - (v) the transport of dangerous goods (DG).
 - (b) helicopters used for:
 - (i) operations under VFR at night with the aid of night vision imaging systems (NVIS);
 - (ii) offshore operations for specialised operations and non-commercial operations with complex helicopters (HOFO);
 - (iii) helicopter point-in-space approaches and departure with reduced VFR minima (PinS)
- (4) A specific approval may be limited, suspended or revoked when the holder does not comply with the applicable detailed requirements contained in this TCAR OPS Air Operations regulation and in TCAR OPS Part SPA applicable to the type of operations to be performed.

SECTION IV - Provisions for the transition

Article 7 – Entry into force and application

- (1) This TCAR OPS SPO regulation as well as TCAR OPS Parts SPO, shall enter into force on 01 March 2026.
- (2) This TCAR OPS Air Operations regulation as well as TCAR OPS Parts shall be fully applicable and binding in their entirety from the 01 March 2029. Beyond this date, operators shall comply with the detailed requirements contained in this TCAR OPS Air Operations regulation and TCAR OPS Parts and shall have obtained, from the CAAT, the appropriate certificate, approval or authorisation issued in accordance with this TCAR OPS Air Operations regulation and TCAR OPS Parts as applicable.
- (3) Between the date in (1) and the date in (2), the transition period operators shall comply with the provisions contained in this Section.

Article 8 – Equivalence of regulations

- (1) During the transition period, when compliance with the detailed requirements contained in this TCAR OPS SPO regulation and in TCAR Parts has been demonstrated to the CAAT:
 - (a) for a training programme or course for flight crew, as well as corresponding instructors and examiners;
 - (b) for checking and assessment of flight crew, as well as corresponding instructors and examiners;
 - (c) for the requirements applicable to air operators in terms of organisation, management system, personnel, facilities as well as manuals, operating procedures and records;
 - (d) for crew composition;
 - (e) for specific approvals;
 - (f) for flight time limitations;
 - (g) for performance and operating limitations;
 - (h) for instrument, data and equipment.

It shall be considered by the CAAT that compliance with corresponding requirements in regulations in force before the entry into force of this TCAR OPS SPO regulation and corresponding TCAR OPS Parts, is also achieved.

- (2) Operators may propose to comply with some provisions of TCAR OPS SPO regulation and TCAR OPS Parts by anticipation without waiting for limit dates listed in this section. This shall be formally agreed by the CAAT.
- (3) In such cases the CAAT may impose any related requirement.

Article 9 – Change Management and Transition Plan to TCAR OPS

A commercial specialised operation shall perform a change management process before implementing the organisational, procedural and documentation changes planned to comply with this TCAR OPS SPO regulation and TCAR OPS Parts. This change management process shall, in particular, assess and mitigate:

- (a) the risk of pairing of crews with different levels of training;
- (b) the risk that members of a same crew use different procedures.

Article 10 – Management system

Commercial specialised operation shall comply with the following requirements during the transition period:

- (a) Personnel involved in compliance monitoring shall have received a training to TCAR OPS provisions, accepted by the CAAT, before submission of documents in accordance with this TCAR OPS SPO regulation and TCAR OPS Parts or 01 March 2028;
- (b) The operator shall have performed a compliance audit of the operator covering all aspects of the operator before submission of any authorisation made in accordance with the detailed requirements contained in this TCAR OPS SPO regulation and TCAR OPS Parts. The results of such audit shall be provided to the CAAT in accordance with TCAR OPS Part ORO;
- (c) The documents submitted to the CAAT, shall be supported by a statement from the person in charge of the compliance management that the documents submitted were verified and found in compliance with applicable TCAR OPS SPO regulation and TCAR OPS Parts.

Article 11 – Use of Operating procedures

Revised procedures applicable to flight crews and flight operations officers contained in Operations Manual (OMA and OMB) to comply with this TCAR OPS SPO regulation and TCAR OPS Parts shall not be implemented until the flight crews involved have been trained to these procedures.

Article 12 – Validity of training delivered before the entry into force of TCAR OPS

Trainings delivered to personnel involved in operations of aircraft, including management personnel and other personnel of an operator delivered before the entry into force of TCAR OPS SPO regulation and TCAR OPS Parts in accordance with training programmes approved by the CAAT in accordance with the regulations in force at that time may be considered as valid to demonstrate compliance with the equivalent requirements of TCAR OPS SPO regulation and TCAR OPS Parts .

Article 13 – Flight crew training

Operators performing commercial specialised operations in accordance with TCAR OPS Part SPO shall comply with the applicable detailed requirements for training of Flight Crew contained in this TCAR OPS SPO regulation and TCAR OPS Parts before to be granted an approval and/or authorisation in accordance with TCAR OPS SPO regulation and TCAR OPS Parts.

Article 14 – Training to TCAR OPS

The training programmes for flight crews, flight operations officers and other personnel shall include the necessary elements for the transition to TCAR OPS.

Article 15 – Validity of Specific approvals granted before the entry into force of TCAR OPS

- (1) During the transition period, operators who obtained specific approvals in accordance with the regulations in force before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts may continue to perform these operations as follows:
 - (a) for operators using CMPA and operator performing commercial specialised operation operators existing authorisation for operations requiring specific approval shall remain valid until 29 February 2028, unless such authorisation expires before. From 01 March 2028, such operators shall only perform operations requiring specific approval for which they have obtained

- authorisation from the CAAT in accordance with TCAR OPS SPO and corresponding TCAR OPS Parts;
- (b) for authorisations expiring before 01 September 2027, such authorisation may be renewed using the detail requirement contained in the regulations in force before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts;
 - (c) for authorisation expiring on or after 01 September 2027, such authorisation shall be renewed in accordance with TCAR OPS SPO and corresponding TCAR OPS Parts. In accordance with article 8 on the equivalence of the regulations, such specific approval shall be added to the Specific Approval issued in accordance with the regulations in force before the entry into force this TCAR OPS SPO and TCAR OPS Parts.
- (2) The detailed requirements for the issuance of some specific approvals contained in TCAR OPS Part SPA being equivalent to the provisions contained in the regulations applicable before the entry into force of this TCAR OPS SPO regulations and TCAR OPS Parts, these specific approvals granted in accordance with previous regulations shall be considered by the CAAT as compliant with the detailed requirements contained in TCAR OPS SPO regulation and TCAR OPS Parts and shall not require any specific demonstration from the operator to obtain the corresponding TCAR OPS specific approval.
- (3) The specific approvals stated in (2) are:
- (a) The following Performance-Based Navigation (PBN) approvals:
 - (i) RNP AR APCH for aeroplanes and helicopters; or
 - (ii) RNP 0.3 for helicopters.
 - (b) Operations in Airspace with Reduced Vertical Separation Minima (RVSM);
 - (c) Dangerous Goods.

Article 16 – Granting of a Specific approval during the transition period

- (1) During the transition period, Specific approvals may continue to be granted to operators in accordance with the regulations in force before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts until 31 August 2027. Such specific approvals shall be added to the Specific Approval issued in accordance with the regulations in force before the entry into force this TCAR OPS SPO and corresponding TCAR OPS Parts.
- (2) From the 01 September 2027, specific approvals shall be granted using the detailed requirements contained in this TCAR OPS SPO and in TCAR OPS Part SPA. In accordance with article 8 on the equivalence of the regulations, such specific approval shall be added to the Specific Approval issued in accordance with the regulations in force before the entry into force this TCAR OPS SPO and corresponding TCAR OPS Parts.
- (3) Any specific approval granted using the detailed requirements contained in this TCAR OPS SPO and in TCAR OPS Part SPA, as specified in (2) of this article shall be added to the Specific Approval issued in accordance with TCAR OPS without requiring further demonstration for the issuance of their TCAR OPS Specific Approval as applicable to the type of operations.
- (4) Notwithstanding (2), specific approvals for PBN operations listed in Article 17 (2) may continue to be granted for additional PBN navigation specifications beyond 01 September 2027. In such cases the approval shall be granted using the detailed requirements contained in the regulations in force before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts until the operator obtains an authorisation issued in accordance with TCAR OPS.

Article 17 – Specific approvals for PBN operations

- (1) For operators performing specialised operations, to continue performing those PBN operations that require a specific approval according to the regulations in force before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts but do not require a specific approval in accordance with TCAR OPS SPO and corresponding TCAR OPS Parts, operators shall:
 - (a) Hold the appropriate specific approval, issued in accordance with the regulations in force before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts until 1 March 2029 for commercial specialised operations operators;
 - (b) continue to operate for the approved PBN operations in accordance with the procedures approved in accordance with the regulations applicable before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts until issuance of their authorisation in accordance with TCAR OPS SPO and corresponding TCAR OPS Parts.
- (2) PBN operations mentioned in (1) and (2) that require a specific approval according to the regulations in force before the entry into force of this TCAR OPS Air Operations regulation and TCAR OPS Parts but do not require a specific approval in accordance with TCAR OPS Air Operations regulation and TCAR OPS Parts are:
 - (a) RNAV 10;
 - (b) RNAV 5;
 - (c) RNAV 2;
 - (d) RNAV 1;
 - (e) RNP 4;
 - (f) RNP 2;
 - (g) RNP 1;
 - (h) A-RNP;
 - (i) RNP APCH (LNAV);
 - (j) RNP APCH (LNAV/VNAV);
 - (k) RNP APCH (LP);
 - (l) RNP APCH (LPV).
- (3) PBN operations mentioned in (2) do not require a specific approval in accordance with TCAR OPS SPO and corresponding TCAR OPS Parts. The corresponding PBN specification will not be endorsed on the specific approval granted to the operators in accordance with TCAR OPS SPO and corresponding TCAR OPS Parts. However, operators shall comply with the detailed requirements for airworthiness approval, crew training, operating procedures and monitoring programs as required in TCAR OPS Part ORO, Part SPO as applicable to the type of PBN operations to be performed.

Article 18 – Specific approvals for MNPS operations

- (4) For operators performing specialised operations, to continue performing MNPS operations, operators shall:
 - (a) Hold the appropriate specific approval, issued in accordance with the regulations in force before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts until the obtain specific approval in accordance with TCAR OPS SPO and corresponding TCAR OPS Parts;

- (b) Continue operating for the approved MNPS operations in accordance with the procedures approved in accordance with the regulations applicable before the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts until issuance of specific approval in accordance with TCAR OPS SPO and corresponding TCAR OPS Parts;
- (c) Obtain a specific approval issued in accordance with TCAR OPS not later than 01 September 2027. In accordance with article 8 on the equivalence of the regulations, such specific approval shall be added to the Specific Approval issued in accordance with the regulations in force before the entry into force this TCAR OPS SPO and corresponding TCAR OPS Parts.

Article 19 – Transition for commercial specialised operations

- (1) Operators willing to start commercial specialised operations after the entry into force of this TCAR OPS SPO regulation and corresponding TCAR OPS Part shall file an application for approval and obtain a CAAT approval in accordance with TCAR OPS prior to start operations.
- (2) To continue performing commercial specialised operations, operators shall comply:
 - (a) with the provisions contained in article 9 of this regulation;
 - (b) with the provisions contained in article 10 of this regulation.
- (3) Operators performing commercial specialised operations before the entry into force of this TCAR OPS SPO regulation and corresponding TCAR OPS Parts may continue to operate provided:
 - (a) not later than 6 months after the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts, the operator provides the evidence to the CAAT that it was conducting commercial SPO;
 - (b) the operator provides to the CAAT, the plan required by Article 9 of this TCAR SPO not later than 28 February 2027.
 - (c) the operator provides to the CAAT, not later than 31 August 2027, the application for authorisation and the information required by TCAR OPS Part ORO;
 - (d) the operator obtains from the CAAT the authorisation required under TCAR OPS Part ORO not later than 28 February 2029.
- (4) To continue performing commercial specialised operations after the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts, operators shall:
 - (a) verify the compliance to TCAR OPS Part SPO Subpart IDE of each aircraft in their fleet and for each aircraft that enters their fleet during the transition;
 - (b) the verification in (a) shall also include the compliance to the other specific requirements of TCAR OPS Part SPA as applicable to type of operations authorised to be performed with a specific aircraft;
 - (c) provide the corresponding status containing the status of compliance required in (a) and (b) to the CAAT, not later than 31 August 2027;
 - (d) in case the status in (c) contains non-compliances with TCAR OPS Part SPO Subpart IDE, the operator shall provide to the CAAT a plan to comply with TCAR OPS Part SPO Subpart IDE not later than 31 August 2027. This plan shall demonstrate that the concerned aircraft will comply with requirement of TCAR OPS Part SPO Subpart IDE not later than 28 February 2029;
 - (e) in case the status in (c) shows non-compliances with TCAR OPS Part SPA requirement related to instrument data and equipment but demonstrates compliance with the regulations in force

before the entry into force of this TCAR OPS Air Operations regulation and TCAR OPS Parts, the operator shall:

- (i) inform the CAAT of its intention to continue or not the operations requiring the specific approval for which an aircraft is not compliant in term of instrument, data and equipment;
 - (ii) in the case the operator is willing to continue such operations, it shall provide to the CAAT a plan for the aircraft to comply with TCAR OPS Part SPA not later than 31 August 2027. This plan shall demonstrate that the concerned aircraft will comply with requirement of TCAR OPS Part SPA not later than 28 February 2029.
- (5) To continue performing commercial specialised operations after the entry into force of this TCAR OPS SPO and corresponding TCAR OPS Parts, the operator shall comply with the applicable airworthiness and maintenance requirements.

Annex 01 Essential requirements for air operations

1. GENERAL

- 1.1. A flight must not be performed if the crew members and, as appropriate, all other operations personnel involved in its preparation and execution are not familiar with applicable laws, regulations and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, the aerodromes planned to be used and the air navigation facilities relating thereto.
- 1.2. A flight must be performed in such a way that the operating procedures specified in the Flight Manual or, where required the Operations Manual, for the preparation and execution of the flight are followed.
- 1.3. Before every flight, the roles and duties of each crew member must be defined. The pilot in command must be responsible for the operation and safety of the aircraft and for the safety of all crew members, passengers and cargo on board.
- 1.4. Articles or substances, which are capable of posing a significant risk to health, safety, property or the environment, such as dangerous goods, weapons and ammunition, must not be carried on any aircraft, unless specific safety procedures and instructions are applied to mitigate the related risks.
- 1.5. All necessary data, documents, records and information to record the respect of the conditions specified in point 5.3 must be retained for each flight and kept available and protected against unauthorised modification for a minimum period of time compatible with the type of operation.

2. FLIGHT PREPARATION

A flight must not be commenced unless it has been ascertained by reasonable means available that all the following conditions are complied with:

- 2.1. adequate facilities directly required for the flight and for the safe operation of the aircraft, including communication facilities and navigation aids, are available for the execution of the flight, taking into account available Aeronautical Information Services documentation;
- 2.2. the crew must be familiar with and passengers informed of the location and use of relevant emergency equipment. Sufficient information, related to the operation and specific to the equipment installed, regarding emergency procedures and use of cabin safety equipment must be made available to crew and passengers;
- 2.3. the pilot in command must be satisfied that:
 - (i) the aircraft is airworthy as specified in point 6;
 - (ii) if required, the aircraft is duly registered and that appropriate certificates with respect thereto are aboard the aircraft;
 - (iii) instruments and equipment as specified in point 5 required for the execution of that flight are installed in the aircraft and are operative, unless waived by the applicable MEL or equivalent document;
 - (iv) the mass of the aircraft and centre of gravity location are such that the flight can be conducted within limits prescribed in the airworthiness documentation;
 - (v) all cabin baggage, hold luggage and cargo is properly loaded and secured; and
 - (vi) the aircraft operating limitations as specified in point 4 will not be exceeded at any time during the flight;

- 2.4. information regarding meteorological conditions for departure, destination and, where applicable, alternate aerodromes, as well as en-route conditions, must be available to the flight crew. Special attention must be given to potentially hazardous atmospheric conditions;
- 2.5. appropriate mitigation measures or contingency plans must be in place to deal with potentially hazardous atmospheric conditions expected to be encountered in flight;
- 2.6. for a flight based on visual flight rules, meteorological conditions along the route to be flown must be such as to render compliance with those flight rules possible. For a flight based on instrument flight rules a destination and where applicable alternate aerodrome(s) where the aircraft can land must be selected, taking into account in particular the forecasted meteorological conditions, the availability of air navigation services, the availability of ground facilities and the instrument flight procedures approved by the State in which the destination and/or alternate aerodrome is located;
- 2.7. the amount of fuel/energy for propulsion and consumables on board must be sufficient to ensure that the intended flight can be completed safely, taking into account the meteorological conditions, any element affecting the performance of the aircraft and any delays that are expected in flight. In addition, a fuel/energy reserve must be carried to provide for contingencies. Procedures for in-flight fuel/energy management must be established when relevant.

3. FLIGHT OPERATIONS

With regard to flight operations, all the following conditions must be complied with:

- 3.1. where relevant for the type of aircraft, during take-off and landing, and whenever deemed necessary by the pilot in command in the interest of safety, each crew member must be seated at their crew station and must use the provided restraint systems;
- 3.2. where relevant for the type of aircraft, all flight crew members required to be on flight deck duty must be and remain at their station, with their seatbelts fastened except en-route for physiological or operational needs;
- 3.3. where relevant for the type of aircraft and the type of operation, before take-off and landing, during taxiing and whenever deemed necessary in the interest of safety, the pilot in command must ensure that each passenger is properly seated and secured;
- 3.4. a flight must be performed in such a way that appropriate separation from other aircraft is maintained and that adequate obstacle clearance is ensured, during all phases of the flight. Such separation must at least be those required by the applicable rules of the air, as appropriate to the type of operation;
- 3.5. a flight must not be continued unless known conditions continue to be at least equivalent to those in point 2. Furthermore, for a flight based on instrument flight rules, an approach toward an aerodrome must not be continued below certain specified heights or beyond a certain position, if prescribed visibility criteria are not met;
- 3.6. in an emergency, the pilot in command must ensure that all passengers are instructed in such emergency action as may be appropriate to the circumstances;
- 3.7. a pilot in command must take all necessary measures so as to minimise the consequences on the flight of disruptive passenger behaviour;
- 3.8. an aircraft must not be taxied on the movement area of an aerodrome, or its rotor must not be turned under power, unless the person at the controls is appropriately competent;
- 3.9. the applicable in-flight fuel/energy management procedures must be used, when relevant.

4. AIRCRAFT PERFORMANCE AND OPERATING LIMITATIONS

- 4.1. An aircraft must be operated in accordance with its airworthiness documentation and all related operating procedures and limitations as expressed in its approved flight manual or equivalent documentation, as the case may be. The flight manual or equivalent documentation must be available to the crew and kept up to date for each aircraft.
- 4.2. Notwithstanding point 4.1, for operations with helicopters a momentary flight through the limiting height velocity envelope may be permitted, provided that safety is ensured.
- 4.3. The aircraft must be operated in accordance with the applicable environmental documentation.
- 4.4. A flight must not be commenced or continued unless the aircraft's scheduled performance, considering all factors which significantly affect its performance level, allows all phases of flight to be executed within the applicable distances/areas and obstacle clearances at the planned operating mass. Performance factors which significantly affect take-off, en-route and approach/landing are, particularly:
 - (a) operating procedures;
 - (b) pressure altitude of the aerodrome;
 - (c) weather conditions (temperature, wind, precipitation and visual range);
 - (d) size, slope and condition of the take-off/landing area; and
 - (e) the condition of the airframe, the power plant or the systems, taking into account possible deterioration.
- 4.5. Such factors must be taken into account directly as operational parameters or indirectly by means of allowances or margins, which may be provided in the scheduling of performance data, as appropriate to the type of operation.

5. INSTRUMENTS, DATA AND EQUIPMENT

- 5.1. An aircraft must be equipped with all navigation, communication and other equipment necessary for the intended flight, taking account of air traffic regulations and rules of the air applicable during any phase of the flight.
- 5.2. When relevant, an aircraft must be equipped with all necessary safety, medical, evacuation and survival equipment, taking account of the risks associated to the areas of operation, the routes to be flown, the flight altitude and the duration of the flight.
- 5.3. All data necessary for the execution of the flight by the crew must be updated and available on board the aircraft taking account of applicable air traffic regulations, rules of the air, flight altitudes and areas of operation.

6. CONTINUING AIRWORTHINESS AND ENVIRONMENTAL COMPATIBILITY OF PRODUCTS

- 6.1. The aircraft must not be operated unless:
 - (a) the aircraft is airworthy and in a condition for safe and environmentally compatible operation;
 - (b) the operational and emergency equipment necessary for the intended flight is serviceable;
 - (c) the airworthiness document and, if applicable, the noise certificate of the aircraft is valid; and
 - (d) the maintenance of the aircraft is performed in accordance with the applicable requirements.

- 6.2. Before each flight or a series of consecutive flights, the aircraft must be inspected, through a pre-flight check, to determine whether it is fit for the intended flight.
- 6.3. The aircraft must not be operated unless it is released to service by qualified persons or organisations, after maintenance. The signed release to service must contain in particular, the basic details of the maintenance carried out.
- 6.4. Records necessary to demonstrate the airworthiness and environmental compatibility status of the aircraft must be kept, and protected against, unauthorised modification for the period of time corresponding to the applicable continuing airworthiness requirements, until the information contained has been superseded by new information equivalent in scope and detail but in any event not less than 24 months.
- 6.5. All modifications and repairs must comply with the essential requirements for airworthiness and, if applicable, the environmental compatibility of products. The substantiating data supporting compliance with the airworthiness requirements and requirements for the environmental compatibility of products must be retained and protected against unauthorised modification.
- 6.6. It is the responsibility of the aircraft operator to ensure that a third party performing the maintenance complies with the operator's safety and security requirements.

7. CREW MEMBERS

- 7.1. The number and composition of the crew must be determined taking into account:
 - (a) the certification limitations of the aircraft, including if applicable, the relevant emergency evacuation demonstration;
 - (b) the aircraft configuration; and
 - (c) the type and duration of operations.
- 7.2. The pilot in command must have the authority to give all commands and take any appropriate actions for the purpose of securing the operation and the safety of the aircraft and of persons and/or property carried therein.
- 7.3. In an emergency situation, which endangers the operation or the safety of the aircraft and/or persons on board, the pilot in command must take any action he/she considers necessary in the interest of safety. When such action involves a violation of local regulations or procedures, the pilot in command must be responsible for notifying the appropriate local authority without delay.
- 7.4. Without prejudice to point 8.12, when other persons are carried on board, emergency or abnormal situations may only be simulated if those persons have been duly informed and are aware of the associated risks before boarding the flight.
- 7.5. No crew member must allow their task achievement/decision making to deteriorate to the extent that flight safety is endangered because of the effects of fatigue, taking into account, inter alia, fatigue accumulation, sleep deprivation, number of sectors flown, night duties or time zone changes. Rest periods must provide sufficient time to enable crew members to overcome the effects of the previous duties and to be well rested by the start of the following flight duty period.
- 7.6. A crew member must not perform allocated duties on board an aircraft when under the influence of psychoactive substances or alcohol or when unfit due to injury, fatigue, medication, sickness or other similar causes.

8. ADDITIONAL REQUIREMENTS FOR OTHER OPERATIONS SUBJECT TO A CERTIFICATION OR DECLARATION REQUIREMENT PERFORMED WITH AEROPLANES, HELICOPTERS OR TILT ROTOR AIRCRAFT

- 8.1. The operation must not be undertaken unless the following conditions are met:

- (a) the aircraft operator must have directly or through agreements with third parties the means necessary for the scale and scope of the operations. Those means comprise but are not limited to the following: aircraft, facilities, management structure, personnel, equipment, documentation of tasks, responsibilities and procedures, access to relevant data and record keeping;
 - (b) the aircraft operator must use only suitably qualified and trained personnel and implement and maintain training and checking programmes for the crew members and other relevant personnel that are necessary to ensure the currency of their certificates, ratings and qualifications;
 - (c) as appropriate for the type of activity undertaken and the size of the organisation, the aircraft operator must implement and maintain a management system to ensure compliance with the essential requirements set out in this Annex, manage safety risks and aim for continuous improvement of this system;
 - (d) the aircraft operator shall establish an occurrence reporting system, as part of the management system under point (c), in order to contribute to the aim of continuous improvement of the safety. The occurrence reporting system shall be compliant with applicable regulation in force in Thailand.
- 8.2. The operation must only be undertaken in accordance with an aircraft operator's operations manual. Such manual must contain all necessary instructions, information and procedures for all aircraft operated and for operations personnel to perform their duties. Limitations applicable to flight time, flight duty periods and rest periods for crew members must be specified. The operations manual and its revisions must be compliant with the approved flight manual and be amended as necessary.
- 8.3. The aircraft operator shall establish procedures, as appropriate, so as to minimise the consequences to safe flight operations of disruptive passenger behaviour.
- 8.4. The aircraft operator must develop and maintain security programmes adapted to the aircraft and the type of operation including particularly:
- (a) security of the flight crew compartment;
 - (b) aircraft search procedure checklist;
 - (c) training programmes; and
 - (d) protection of electronic and computer systems to prevent intentional and non-intentional system interference and corruption.
- 8.5. When security measures may adversely affect the safety of operations, the risks must be assessed and appropriate procedures developed to mitigate safety risks, this may necessitate the use of specialist equipment.
- 8.6. The aircraft operator must designate one pilot amongst the flight crew as the pilot in command.
- 8.7. The prevention of fatigue must be managed through a fatigue management system. For a flight, or series of flights, such a system needs to address flight time, flight-duty periods, duty and adapted rest periods. Limitations established within the fatigue management system must take into account all relevant factors contributing to fatigue such as, in particular, number of sectors flown, time-zone crossing, sleep deprivation, disruption of circadian cycles, night hours, positioning, cumulative duty time for given periods of time, sharing of allocated tasks between crew members, and also the provision of augmented crews.
- 8.8. The aircraft operator must ensure that the tasks specified in point 6.1 and those described in points 6.4 and 6.5 are controlled by an organisation responsible for the continuing airworthiness management that must meet the applicable requirements.

- 8.9. The aircraft operator must ensure that the release to service required by point 6.3 is issued by an organisation qualified for the maintenance of products, parts and not-installed equipment. This organisation shall meet the applicable requirements.
- 8.10. The organisation referred to in 8.8 shall establish an organisation manual providing, for use and guidance of personnel concerned, a description of all continuing airworthiness procedures of the organisation.
- 8.11. A checklist system must be available for use, as applicable, by crew members in all phases of operation of the aircraft under normal, abnormal and emergency conditions and situations. Procedures must be established for any reasonably foreseeable emergency situation.
- 8.12. Emergency or abnormal situations must not be simulated when passengers or cargo are being carried.